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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,758	03/16/2004	Kamal P. Nigam	20004/BUZZ4	3422

81905 7590 04/29/2009

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ART UNIT	PAPER NUMBER
2129	
MAIL DATE	DELIVERY MODE
04/29/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/801,758	NIGAM ET AL.	
	Examiner	Art Unit	
	OMAR F. FERNANDEZ RIVAS	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45 and 47-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45 and 47-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to an RCE filed by the Applicant entered on 4/1/2009.

2. The Office Actions of 10/1/2008 and 3/7/2008 are incorporated into this Non-Final Office Action by reference.

Status of Claims

3. Claims 1-9, 15, 18-19, 21, 25, 39, 31-37, 39, 42 and 49-51 have bee have been amended. Claims 1-45, and 47-51 are pending on this application.

Claim Rejections - 35 USC § 112

4. In light of the amendments made on claims 2, 3, 9, 19, 21, 24, 25, 33, 50 and 51 the rejection under 35 U.S.C. 112, second paragraph, of the Office Action of 3/7/2008 has been withdrawn.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-45, and 47-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites “developing the classifier for classifying electronic communications based upon the irrelevancy keyword, the relevant labels and the irrelevant labels assigned by the user during the presenting of the electronic communications to the user”. The specification does not provide sufficient support for this limitation in the claim. Nowhere in the specification is there any disclosure as to using the irrelevancy keywords and the labels assigned to the user to develop the classifier. The specification provides for developing the classifier based on "labeling criteria" obtained from the user (see paragraphs 48-57 and figures 1-9 of the specification of the instant application). Nowhere in the specification is there any suggestion that the irrelevancy keyword is the only criteria used along with the labels assigned by the user in order to generate the classifier and Applicant provided no specific reference in the specification to the claim limitation. As such, these limitations are considered new matter.

Claim 2 further limits claim 1 and incorporate the deficiencies set forth above regarding claim 1 and is rejected on the same basis.

Claim 3 recites the limitation addressed above regarding claim 1 (developing the classifier…) and is rejected on the same rationale as claim 1.

Claims 4-20 further limit claim 3 and incorporate the deficiencies set forth above regarding claim 3 and are rejected on the same basis.

Claim 21 recites the limitation addressed above regarding claim 1 (developing the classifier…) and is rejected on the same rationale as claim 1.

Claims 22-32 further limit claim 21 and incorporate the deficiencies set forth above regarding claim 21 and are rejected on the same basis.

Claim 33 recites "eliciting labeling criteria from a user by querying a user to identify a keyword indicative of an irrelevant electronic communication and receiving a user identification of the keyword". However, the specification provides for querying a user for a plurality of labeling criteria (see paragraphs 48-57 and figures 1-9 of the specification of the instant application). Nowhere in the specification is there any suggestion that the irrelevancy keyword is the only labeling criteria received from the user and Applicant provided no specific reference in the specification to the claim limitation. As such, these limitations are considered new matter.

Claims 34-48 further limit claim 33 and incorporate the deficiencies set forth above regarding claim 33 and are rejected on the same basis.

Claim 49 recites the limitation addressed above regarding claim 1 (developing the classifier…) and is rejected on the same rationale as claim 1.

Claim 50 recites the limitation addressed above regarding claim 1 (developing the classifier…) and is rejected on the same rationale as claim 1.

Claim 51 recites the limitation addressed above regarding claim 33 (eliciting labeling criteria…) and is rejected on the same rationale as claim 33.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 2, 8 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 8

Claim 2 recites assessing a value related to performance that labeling a set of electronic communications from **each group** provides to the classifier. However, claim 1 does not suggest that at least one electronic communication is selected from each group. The intent of this limitation is not clear and the metes and bounds of the claimed invention cannot be determined.

Claim 8 recites limitations similar to those of claim 2 and the deficiencies set forth above regarding claim 2 apply equally to claim 8 as dependent on claim 3.

Claim 35

Claim 35 recites "…wherein selecting electronic communications for labeling by the user…" There is insufficient antecedent basis for this limitation since there is no previous step of selecting electronic communications for labeling by the user in the claim or in the claims from which claim 35 depends from.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-45 and 46-48 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. For a method (or process) claim to be statutory under 35 USC 101, the method must be tied to another statutory class (such as a **particular apparatus**) or transform underlying subject matter (such as an article or materials) to a different state or thing. Therefore, the claim must positively recite the particular apparatus that accomplishes the method steps or positively recite the subject matter that is being transformed. In other words, pure software or business method patents that are neither tied to a **specific machine** nor change something into a different state are not patentable.

Claim 1 recites a computer implemented method for developing a classifier. However, the claim does not specify any particular type or nature of data; nor does it specify how or from where the data is obtained or what the data represents. The claim merely recites “electronic communications”, which has not been defined in the claim nor in the specification as to mean anything specific. This electronic communication could be anything, including abstractions which have not been excluded in the claim. Lacking this definition of the type of data being processed in the claim, the method cannot be said to be tied to a **particular** device. The recitation of a general purpose computer that processes any type of data does not tie the method to a **particular** device.

The courts have also held that a claim may not preempt ideas, laws of nature or natural phenomena. The concern over preemption was expressed as early as 1852. See Le Roy v. Tatham, 55 U.S. (14 How.) 156, 175 (1852) ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 132, 76 USPQ 280, 282 (1948).

Accordingly, one may not patent every "substantial practical application" of an idea, law of nature or natural phenomena because such a patent "in practical effect would be a patent on the [idea, law of nature or natural phenomena] itself." "Here the "process" claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure-binary conversion. The end use may (1) vary from the operation of a train to verification of drivers' licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus." Gottschalk v. Benson, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

Since claim 1 has not specified any particular type or nature of data; nor does it specify how or from where the data is obtained or what the data represents, the claim pre-empts a fundamental principle or idea. The claim covers any and every possible way that the method can be implemented and any and every end use for the method. As such, the claim seems to be a disembodied abstract idea because it recites no particular implementation of the idea.

Claim 2 further limits claim 1 but fails to cure the deficiencies set forth above and is rejected on the same basis.

Claim 3 recites a computer implemented method and has the same deficiencies as set forth above regarding claim 1 and is rejected under the same rationale as claim 1.

Claim 4-20 further limit claim 3 but fail to cure the deficiencies set forth above and are rejected on the same basis.

Claim 21 recites a computer implemented method and has the same deficiencies set forth above regarding claim 1 and is rejected under the same rationale as claim 1.

Claims 22-32 further limit claim 21 but fail to cure the deficiencies set forth above and are rejected on the same basis.

Claim 33 recites a computer implemented method and has the same deficiencies set forth above regarding claim 1 and is rejected under the same rationale as claim 1.

Claims 34-48 further limit claim 33 but fail to cure the deficiencies set forth above and are rejected on the same basis.

Claims 49-51 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The computer system must set forth a practical application of judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application.

For a claimed invention to be statutory the claimed invention must produce a useful, concrete, and tangible result. As the Supreme Court has made clear, " [a]n idea of itself is not patentable," *Rubber-Tip Pencil Co. v. Howard,* 20 U.S. (1 Wall.) 498, 507

(1874); taking several abstract ideas and manipulating them together adds nothing to the basic equation. In re Warmerdam, 31 USPQ2d 1754 (Fed. Cir. 1994).

For a claimed invention to be statutory under 35 U.S.C. 101, the claims must provide a tangible result, and there must be a practical application, by either: 1) transforming (physical thing) or 2) by having the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result.

In the present case, claim 49 describes a computer memory including instructions for implementing a method for developing a classifier. However, the claim fails to provide a tangible result and a practical application for the result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a thought, a computation, or manipulated data. More specifically, the claimed subject matter provides for deploying a classifier to classify electronic communications. The claim does not specify any particular type or nature of data; nor does it specify how or from where the data is obtained or what the data represents. The electronic communications have not been defined in the claim or in the specification as to refer to a specific type of data and has not excluded abstractions from these electronic communications. The claim is directed to mere abstract manipulation of abstract data for classification. Classification, in and of itself, is useless in a real world situation absent a particular substantial application. The claims are not limited to a substantial practical application because they encompass classification of unspecified, abstract

objects, producing abstract classification that has no specific purpose or use. This classification could be nothing more than producing data, which is not a practical and tangible result since data alone has no physical structure and does not itself perform any useful, concrete and tangible result.

The courts have also held that a claim may not preempt ideas, laws of nature or natural phenomena. The concern over preemption was expressed as early as 1852. See Le Roy v. Tatham, 55 U.S. (14 How.) 156, 175 (1852) ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 132, 76 USPQ 280, 282 (1948).

Accordingly, one may not patent every "substantial practical application" of an idea, law of nature or natural phenomena because such a patent "in practical effect would be a patent on the [idea, law of nature or natural phenomena] itself." "Here the "process" claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure-binary conversion. The end use may (1) vary from the operation of a train to verification of drivers' licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus." Gottschalk v. Benson, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

In the present case, claims 1, 3, 21, 33, 50 and 51 provide for deploying the classifier for classifying **electronic electronic communications**. The claims do not restrict these electronic electronic communications to any specific type of communication. Therefore the claim provides for classifying **any and every** type of

electronic electronic communications (including abstractions) possible, which includes any existing communication that can be handled by a computer or any communication that could be developed that could be handled or processed by the claimed invention and any and every possible end use for the claimed invention.

Response to Applicant's arguments

10. The Applicant's arguments regarding the rejection under 35 USC 101 have been fully considered but are not persuasive.

In reference to Applicant's arguments:

The Office action rejected claims 1-45 and 47-51 as being directed to non-statutory subject-matter. As amended, the claims are directed to a transformation (e.g., the classification, labeling, and storage of user-generated electronic communications) of an electronic signal representative of a physical thing (e.g., the electronic communications are representative of actual human communication). Accordingly, in accordance with MPEP § 2106, the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, and the court's remarks in In re Bilski, 545 F.3d 943 (Fed. Cir. 2008), it is respectfully submitted that the recited claims are statutory

Examiner's response:

The claims as recited are directed to manipulation of unspecified data in a computer. This is not a transformation of underlying subject matter (such as an article or materials) to a different state or thing. Computer data is not an article or a material and is not a physical thing. Moreover, this data has not been described in the claim or in the specification to represent anything and therefore this data could be nothing more than abstract data which does not represent a real world thing and manipulating such abstract data cannot produce a real world result.

> The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies §101 either by showing that his claim is tied to a **particular** machine, or by showing that his claim transforms an article. *See Benson*, 409 U.S. at 70. Certain considerations are applicable to analysis under either branch. First, as illustrated by *Benson* and discussed below, the use of a specific machine or transformation of an article must impose **meaningful limits on the claim's scope** to impart patent-eligibility. *See Benson*, 409 U.S. at 71-72. Second, the involvement of the machine or transformation in the claimed process must **not** merely be insignificant extra-solution activity. *See Flook*, 437 U.S. at 590. (See In re Bilski, 88 USPQ2d at 1396, emphasis added.)

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-4, 6-10, 16-17, 19-21, 27-29, 31-43 and 49-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis (US Patent #5,675,710, referred to as **Lewis**).

Claim 1

Lewis anticipates a computer implemented method for developing a classifier for classifying electronic communications (**Lewis**: abstract; C1, L5-8; C1, L30-45; C3, L58 to C4, L11) comprising the steps of:

querying a user for an irrelevancy keyword indicative of an irrelevant electronic communication (Examiner's Note (EN): Due to the new matter situation described in the rejection under 35 USC 112 set forth above, this limitation is not given any patentable weight);

receiving a user identification of the irrelevancy keyword (EN: Due to the new matter situation described in the rejection under 35 USC 112 set forth above, this limitation is not given any patentable weight);

(a) presenting a user-generated electronic communications to a user for labeling as relevant or irrelevant, the electronic communications being selected from groups of user-generated electronic communications including (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1; EN: item 21 applies. Note that electronic communications are **selected** from groups of electronic communications, therefore selecting from **one** of these groups will read on the limitation. It is also noted that these definitions of groups can be considered non-functional descriptive material, since the

classifier generated does not seem to depend from which of these groups the electronic communications are selected (the different groups add nothing to the functionality of the claimed invention)):

a training set group of electronic communications, the training set group of electronic communications being selected by an active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier);

a system-labeled set of electronic communications previously labeled by the system (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data is input to the supervised learning system);

a test set group of electronic communications, the test set group of electronic communications for testing the accuracy of a current state of a classifier being developed (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12,L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced);

a faulty set of electronic communications suspected to be previously mis-labeled by the user (EN: not considered);

and a random set of electronic communications previously labeled by the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; EN: the

manually annotated documents are used by the supervised learning system to train the classifier);

(b) developing the classifier for classifying electronic communications based upon the irrelevancy keyword and the relevant labels and the irrelevant labels assigned by the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 21 applies. The classifier produced will depend on the manually annotated data).

(c) deploying the classifier for use in classifying electronic communications based upon the relevant labels and the irrelevant labels (**Lewis**: abstract: C3, L58 to C4, L11; C6, L20-55; C13, L40-62; EN: the classifier developed is used to classify documents in a database).

(d) storing a set of electronic communications labeled by the classifier in a memory (**Lewis**: C4, L29-56; C6, L20-63; Figs. 1-3; EN: the documents in the database are annotated using the classification vector. It is also inherent that the result of any process in a computer must be stored in memory. Moreover, the concept of storing the electronic communications has not been embodied in the claim such that functional discrimination can be associated with this limitation. Simply stated, in the instant claims, storing the electronic communications is merely a written description. This limitation is also considered insignificant post-solution activity).

Claim 2

Lewis anticipates the presenting of the electronic communications to the user includes the steps of: assessing a value that labeling a set of electronic communications from each group will provide to the classifier being developed (**Lewis**: C7, L60 to C9, L9; C11, L34 to C12, L4; EN: item 21 applies. The weighting factors, the probability values and the RSV value); and selecting a next group for labeling based upon the greatest respective value that will be provided to the classifier being developed from the assessing step (**Lewis**: C7, L60 to C12, L4).

Claims 3 and 49

Lewis anticipates a computer implemented method for developing a classifier for classifying electronic communications (**Lewis**: abstract; C1, L5-8; C1, L30-45; C3, L58 to C4, L11) comprising the steps of:

querying a user for an irrelevancy keyword indicative of an irrelevant electronic communication (EN: Due to the new matter situation described in the rejection under 35 USC 112 set forth above, this limitation has not been given any patentable weight;

receiving a user identification of the irrelevancy keyword (EN: Due to the new matter situation described in the rejection under 35 USC 112 set forth above, this limitation has not been given any patentable weight);

(a) presenting electronic communications to a user for labeling as relevant or irrelevant, the electronic communications being selected from groups of user-generated electronic communications including (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1; Examiner's Note (EN): item 21 applies. Note that electronic

communications are **selected** from groups of electronic communications, therefore selecting from **one** of these groups will read on the limitation. It is also noted that these definitions of groups can be considered non-functional descriptive material, since the classifier generated does not seem to depend from which of these groups the electronic communications are selected (the different groups add nothing to the functionality of the claimed invention)):

a training set group of electronic communications, the training set group of electronic communications being selected by an active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier);

a test set group of electronic communications, the test set group of electronic communications for testing the accuracy of a current state of the classifier being developed (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12, L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced);

and a previously-labeled set of electronic communications previously labeled by **at least one of** the user, the system and another user (**Lewis**: abstract; C1, L38 to C2, L22; C2, L64 to C3, L11; C3, L64 to C4, L11; C6, L20-64; C7, L1-40; EN: item 21

applies. The machine annotated data is labeled by the system and manually annotated data is labeled by a user);

(b) developing a classifier for classifying electronic communications based upon the irrelevancy keyword and the relevant labels and the irrelevant labels assigned by the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 21 applies. The classifier produced will depend on the manually annotated data);

(c) deploying the classifier for use in classifying electronic communications based upon the relevant labels and the irrelevant labels (**Lewis**: abstract: C3, L58 to C4, L11; C6, L20-55; C13, L40-62); and

(d) storing a set of electronic communications labeled by the classifier in a memory (**Lewis**: C4, L29-56; C6, L20-63; Figs. 1-3; EN: the documents in the database are annotated using the classification vector. It is also inherent that the result of any process in a computer must be stored in memory. Moreover, the concept of storing the electronic communications has not been embodied in the claim such that functional discrimination can be associated with this limitation. Simply stated, in the instant claims, storing the electronic communications is merely a written description. This limitation is also considered insignificant post-solution activity).

Claim 4

Lewis anticipates the previously-labeled set of electronic communications includes electronic communications previously labeled by the user (**Lewis**: abstract; C1,

L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; EN: the manually annotated data).

Claim 6

Lewis anticipates the previously-labeled set of electronic communications includes electronic communications previously labeled by the system (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data is input to the supervised learning system).

Claim 7

Lewis anticipates the previously-labeled set of electronic communications includes electronic communications previously labeled by a user and electronic communications previously labeled by the system (**Lewis**: abstract; C1, L38 to C2, L22; C2, L64 to C3, L11; C3, L64 to C4, L11; C6, L20-64; C7, L1-40; EN: item 21 applies. The learning algorithm will use both manually annotated data and machine annotated data).

Claim 8

Lewis anticipates presenting the electronic communications to the user includes: assessing a value that labeling a set of electronic communications from each group will provide to the classifier being developed (**Lewis**: C7, L60 to C9, L9; C11, L34 to C12, L4; EN: item 21 applies. The weighting factors, the probability values and the RSV value); and selecting a next group for labeling based upon the greatest respective value

that will be provided to the classifier being developed from the assessing step (**Lewis**: C7, L60 to C12, L4).

Claim 9

Lewis anticipates presenting the electronic communications to the user includes: assessing a value that labeling a set of electronic communications from each group will provide to the classifier being developed (**Lewis**: C7, L60 to C9, L9; C11, L34 to C12, L4); and selecting a next group for labeling based upon the achieving known performance bounds for the classifier (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12, L4; C13, L40-62; EN: determining if a satisfactory classification vector has been produced).

Claim 10

Lewis anticipates the step of developing an expression of labeling criteria in an interactive session with the user (**Lewis**: C2, L1-22; C7, L1-57; EN: item 21 applies. The user will input data (an interactive session) for the documents regarding their relevance).

Claims 16 and 27

Lewis anticipates developing an expression of labeling criteria produces a criteria document (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: item 21 applies. The classification vector is considered a criteria document that will

depend on the data input by the user).

Claims 17 and 28

Lewis anticipates the criteria document includes a list of items that are considered relevant and a list of items that are considered irrelevant (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the weights of the terms (items) in the classification vector will determine the relevance of the documents. Also not that a set of relevant documents from the documents in the database is obtained).

Claims 19, 29 and 31

Lewis anticipates the expression and/or the criteria document include a group of keywords and/or phrases for use by the system in automatically labeling electronic communications (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

Claim 20

Lewis anticipates the interactive session is conducted prior to presenting the electronic electronic communications to the user (**Lewis**: C7, L1-57).

Claims 21 and 50

Lewis anticipates a computer assisted/implemented method for developing a classifier for classifying electronic communications comprising the steps of:

(a) **developing an expression of labeling criteria in an interactive session with a user**, wherein the interactive session includes querying a user to identify an irrelevancy keyword indicative of an irrelevant electronic communication and receiving a user identification of the irrelevancy keyword (**Lewis**: C2, L1-22; C7, L1-57; EN: item 21 applies. Due to the new matter situation described in the rejection under 35 USC 112 set forth above, the limitations regarding an irrelevancy keyword have not been given any patentable weight. The user will input data (an interactive session) for the documents regarding their relevance);

(b) presenting electronic communications to the user for labeling as relevant or irrelevant, wherein the electronic communications are user-generated (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1);

(c) developing a classifier for classifying electronic communications based upon the irrelevancy keyword and the relevant labels and the irrelevant labels assigned by the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 21 applies. Due to the new matter situation described in the rejection under 35 USC 112 set forth above, the limitations regarding an irrelevancy keyword have not been given any patentable weight. The classifier produced will depend on the manually annotated data);

(d) deploying the classifier for use in classifying electronic communications based upon the irrelevancy keyword and the relevant label and irrelevant labels (**Lewis**: abstract: C3, L58 to C4, L11; C6, L20-55; C13, L40-62):

(e) storing a set of electronic communications labeled by the classifier in a memory (**Lewis**: C4, L29-56; C6, L20-63; Figs. 1-3; EN: the documents in the database are annotated using the classification vector. It is also inherent that the result of any process in a computer must be stored in memory. Moreover, the concept of storing the electronic communications has not been embodied in the claim such that functional discrimination can be associated with this limitation. Simply stated, in the instant claims, storing the electronic communications is merely a written description. This limitation is also considered insignificant post-solution activity).

wherein **at least one** (b) and (c) use the expression of labeling criteria developed in (a) (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: the user will input data and label the documents and this data will be used by the learning algorithm to develop the classifier).

Claim 27

Lewis anticipates developing an expression of labeling criteria produces a criteria document (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: item 21 applies. The classification vector is considered a criteria document that will depend on the data input by the user. Also not that a set of relevant documents from the documents in the database is obtained).

Claim 28

Lewis anticipates the criteria document includes a list of items that are considered relevant and a list of items that are considered irrelevant (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the weights of the terms (items) in the classification vector will determine the relevance of the documents).

Claim 29

Lewis anticipates the criteria document includes a group of keywords for use by the system in automatically labeling electronic communications (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

Claim 31

Lewis anticipates the expression of labeling criteria includes a group of keywords and/or phrases for use by the system in automatically labeling electronic ommunications (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

Claim 32

Lewis anticipates the group of keywords is also for use by the system in gathering electronic communications (**Lewis**: C5, L5 to C6, L55; C11, L55 to C12, L3;

EN: the classification vector is used to classify and annotate the documents in the database).

Claims 33 and 51

Lewis anticipates a computer implemented method for developing a classifier for classifying electronic communications (**Lewis**: abstract; C1, L5-8; C1, L30-45; C3, L58 to C4, L11) comprising:

(a) defining a domain of electronic communications on which a classifier is to operate, wherein the electronic communications are user-generated (**Lewis**: abstract; C1, L5-29; C6, L20-55; C7, L13 -40; EN: the database of documents is considered a domain of electronic communications on which the classifier operates. Also note that this is a text classifier (a domain of electronic communications). The manually annotated documents and the machine annotated documents can also be considered domains);

(b) collecting a set of electronic communications from the domain (**Lewis**: C5, L5 to C6, L65; C9, L25-46; C11, L55 to C12, L3; receiving data from the database);

(c) eliciting labeling criteria from a user by querying a user to identify a keyword indicative of an irrelevant electronic communication and receiving a user identification of the keyword (**Lewis**: C1, L46 to C2, L22; C6, L20-64; C7, L1-57; EN: Due to the new matter situation described in the rejection under 35 USC 112 set forth above, the limitations regarding an irrelevancy keyword have not been given any patentable weight. The data input by the user or the manual annotation of the documents);

(d) labeling, by the system, electronic communications from the set of electronic communications according, at least in part, to the labeling criteria elicited from the user (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN; the machine annotated data. Note that the documents will be annotated using the classification vector obtained from the manually annotated training data);

(e) labeling, by the user, electronic communications from the set of electronic communications (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1; EN: the user will annotate the documents (relevant or irrelevant));

(f) building the electronic communications classifier according to a combination of labels applied to electronic communications in (d) and (e) (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 21 applies. The classifier produced will depend on the manually annotated data and the machine annotated data);

(g) deploying the classifier for use in classifying electronic electronic communications based upon the combination of labels (**Lewis**: abstract: C3, L58 to C4, L11; C6, L20-55; C13, L40-62); and

(h) storing a labeled set of electronic communications labeled by the classifier in a memory (**Lewis**: C4, L29-56; C6, L20-63; Figs. 1-3; EN: the documents in the database are annotated using the classification vector. It is also inherent that the result of any process in a computer must be stored in memory. Moreover, the concept of storing the electronic communications has not been embodied in the claim such that functional discrimination can be associated with this limitation. Simply stated, in the

instant claims, storing the electronic communications is merely a written description. This limitation is also considered insignificant post-solution activity).

Claim 34

Lewis anticipates (d) and (e), and (f) includes selecting electronic communications for labeling by the user targeted to build the electronic communications classifier within known performance bounds (**Lewis**: C6, L20-64; C9, L25 to C11, L32; C13, L40-62; EN: testing the classification vector for a termination condition and iterating if the condition has not been met).

Claim 35

Lewis anticipates the selecting electronic communications for labeling by the user **selects electronic communications from groups of electronic communications** including: a training set group of electronic communications, the training set group of electronic communications being selected by an active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier); a test set group of electronic communications for testing the accuracy of a current state of the classifier (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12,L4; C13, L40-62; EN: the classification vector and the document vectors will

be used to determine if a satisfactory classification vector has been produced); and a previously-labeled set of electronic communications previously labeled **by at least one** of the user, the system and another user (**Lewis**: abstract; C1, L38 to C2, L22; C2, L64 to C3, L11; C3, L64 to C4, L11; C6, L20-64; C7, L1-40; EN: item 21 applies. The machine annotated data is labeled by the system and manually annotated data is labeled by a user).

Claim 36

Lewis anticipates selecting electronic communications for labeling by the user **selects electronic communications from groups of electronic communications** (EN: note that only selecting from one group is sufficient to read on this limitation. The language does not suggest that one communication from each group must be selected) including: a training set group of electronic communications, the training set group of electronic communications being selected by an active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier); a system-labeled set of electronic communications previously labeled by the system (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data is input to the supervised learning system); a test set group of electronic communications for testing the accuracy of a current state of the classifier

being developed (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12,L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced); a faulty set of electronic communications suspected to be previously mis-labeled by the user; and a random set of electronic communications previously labeled by the user (EN: not necessary to select from this group).

Claim 37

Lewis anticipates the labeling criteria elicited in the eliciting of (c) is used, in part, to determine electronic communications to collect in the collecting of (b) (**Lewis**: C6, L20-64; C7, L14-40; C9, L25-46; C11, L55 to C12, L3; EN: the documents collected from the database will depend on the user's inputs or manually annotated documents).

Claims 38, 40 and 43

Lewis anticipates the eliciting (c) involves an interactive session with the user (**Lewis**: C2, L1-22; C7, L1-57; EN: item 21 applies. The user will input data (an interactive session) for the documents regarding their relevance).

Claims 39 and 42

Lewis anticipates the labeling criteria elicited in the eliciting (c) is used, in part, by the system to label electronic communications in the labeling (d) (**Lewis**: C2, L1-22; C6, L20-64; C7, L1-57; EN: machine annotations will depend on the manually annotated

data).

Claims 41 and 48

Lewis anticipates the building (f) involves an active learning process (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 21 applies. Active learning process not further defined. The supervised learning algorithm is considered an active learning process).

Response to Applicant's arguments

13. The Applicant's arguments regarding the rejection under 35 USC 102 have been fully considered but are not persuasive.

In reference to Applicant's arguments on pages 19-21:

The Applicant's arguments are directed to state that Lewis does not disclose querying a user for an irrelevancy keyword and using this keyword in developing the classifier.

Examiner's response:

As set forth in the rejection above, since the limitation of querying a user for an irrelevancy keyword and using this keyword along with the relevant or irrelevant labels applied by the user to develop a classifier is considered new matter since the specification provides no support for these features and no specific reference in the specification to the claim limitation have been made. While the specification describes soliciting a plurality of criteria from a user, nothing suggests that it is only the irrelevant

keywords that are used in developing the classifier. As such, these limitations are considered new matter and have not been given any patentable weight.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 11-15, 22-24, 44, 45 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis as set forth above in view of Fries et al. (US Patent #6,751,606, referred to as **Fries**).

Claim 11

Lewis does not teach the interactive session includes posing hypothetical questions to the user regarding what type of information the user would consider relevant.

Fries teaches The method of claim 10, wherein the interactive session includes the steps of posing hypothetical questions to the user regarding what type of information the user would consider relevant (**Fries**: C8, L62 to C9, L4; C20, L35-54; C25, L18 to C27, L3; Figs 5,18, 20, 24, 25 and 30-37; EN: item 21 applies. Displaying alternatives to the user for the search query or refining a search query is information that the user would consider relevant).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the interactive session includes the steps of posing hypothetical questions to the user regarding what type of information the user would consider relevant as taught by Fries for the purpose of guiding and facilitating the user to input the annotations and other data for the documents in the database so as to obtain a better classification of the documents (**Lewis**: C7, L1 to C8, L36).

Claim 12

Lewis does not teach the hypothetical questions elicit "yes", "no" and "unsure" responses from the user.

Fries teaches The method of claim 11, wherein the hypothetical questions elicit "yes", "no" and "unsure" responses from the user (**Fries**: Figs. 18, 20, 29; EN: item 21 applies. "Something else" and "show me an overview" are "unsure" responses).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the hypothetical questions elicit "yes", "no" and "unsure" responses from the user as taught by Fries for the purpose of facilitation the process of obtaining information from the user regarding what documents are relevant or irrelevant (**Lewis**: C7, L1-40).

Claim 13

Fries teaches The method of claim 11 wherein subsequent questions are based, at least in part, upon the answers given to previous questions (**Fries**: C25, L26-60; EN: item 21 applies. The screens displayed will depend on the answers from previous screens).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating subsequent questions are based, at least in part, upon the answers given to previous questions as taught by Fries for the purpose of having means to control the process of obtaining information from the user.

Claim 14

Lewis teaches the step of developing an expression of labeling criteria produces a criteria document (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: item 21 applies. The classification vector is considered a criteria document that will depend on the data input by the user).

Claim 15

Lewis teaches the expression and/or the criteria document include a group of keywords and/or phrases for use by the system in automatically labeling electronic communications (**Lewis**: C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

Claim 22

Lewis does not teach the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant.

Fries teaches The method of claim 21, wherein the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant (**Fries**: C8, L62 to C9, L4; C20, L35-54; C25, L18 to C27, L3; Figs 5,18, 20, 24, 25 and 30-37; EN: item 21 applies. Displaying alternatives to the user for the search query or refining a search query is information that the user would consider relevant).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant as taught by Fries for the purpose of guiding and facilitating the user to input the annotations and other data for the documents in the database so as to obtain a better classification of the documents (**Lewis**: C7, L1 to C8, L36).

Claim 23

Lewis does not teach the questions elicit "yes", "no" and "unsure" responses from the user.

Fries teaches The method of claim 22, wherein the questions elicit "yes", "no" and "unsure" responses from the user (**Fries**: Figs. 18, 20, 29; EN: item 21 applies. “Something else” and "show me an overview" are “unsure” responses).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant’s invention to modify the teachings of Lewis by incorporating the hypothetical questions elicit "yes", "no" and "unsure" responses from the user as taught by Fries for the purpose of facilitation the process of obtaining information from the user regarding what documents are relevant or irrelevant (**Lewis**: C7, L1-40).

Claim 24

Lewis does not teach subsequent questions are based, at least in part, upon the answers given to previous questions.

Fries teaches The method of claim 21 wherein subsequent questions are based, at least in part, upon the answers given to previous questions (**Fries**: C25, L26-60; EN: item 21 applies. The screens displayed will depend on the answers from previous screens).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant’s invention to modify the teachings of Lewis by incorporating subsequent questions are based, at least in part, upon the answers given to previous questions as taught by Fries for the purpose of having means to control the process of obtaining information from the user.

Claim 44

Lewis does not teach the interactive session includes posing questions to the user regarding what type of information the user would consider relevant.

Fries teaches The method of claim 43, wherein the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant (**Fries**: C8, L62 to C9, L4; C20, L35-54; C25, L18 to C27, L3; Figs 5,18, 20, 24, 25 and 30-37; EN: item 21 applies. Displaying alternatives to the user for the search query or refining a search query is information that the user would consider relevant).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant as taught by Fries for the purpose of guiding and facilitating the user to input the annotations and other data for the documents in the database so as to obtain a better classification of the documents (**Lewis**: C7, L1 to C8, L36).

Claim 45

Lewis teaches the interactive session also allows the user to provide keywords based upon a criteria the user considers relevant (**Lewis**: C7, L1-57; EN: the user request specifies words or attributes the user believes are likely to occur in the relevant

documents).

Claim 47

Lewis does not teach the questions elicit "yes", "no" and "unsure" responses from the user.

Fries teaches The method of claim 44, wherein the questions elicit "yes", "no" and "unsure" responses from the user (**Fries**: Figs. 18, 20, 29; EN: item 21 applies. “Something else” and "show me an overview" are “unsure” responses).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant’s invention to modify the teachings of Lewis by incorporating the hypothetical questions elicit "yes", "no" and "unsure" responses from the user as taught by Fries for the purpose of facilitation the process of obtaining information from the user regarding what documents are relevant or irrelevant (**Lewis**: C7, L1-40).

Examination considerations/comments

16. If Applicant wishes to amend to overcome the prior art of record, the Examiner suggests to include the limitations in one of the independent claims that have not been rejected under prior art (for example claims 25 and 26) into the independent claims. The Examiner also suggests to make it explicit in claim 1 and all similar independent claims that at least one electronic document from each of the groups of electronic documents is presented to the user so that all groups **must** be considered in the claim.

17. Examiner has cited particular columns and line numbers (or paragraphs) in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific imitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the Applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. The entire reference is considered to provide disclosure relating to the claimed invention.

18. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 105455, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

19. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office

actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

20. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

21. Examiner's Opinion: items 18-20 apply. The claims and only the claims form the metes and bounds of the invention. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Engel et al. US Patent #5,761,383

Chen US PGPUB #2002/0010691

Horvitz US Patent #6,553,358

Hampshire US PGPUB #2003/0088532

Dom et al. US Patent #6,662,170

23. Claims 1-45, and 47-51 are rejected.

Correspondence Information

24. Any inquires concerning this communication or earlier communications from the examiner should be directed to Omar F. Fernández Rivas, who may be reached Monday through Friday, between 7:00 a.m. and 4:00 p.m. EST. or via telephone at (571) 272-2589 or email omar.fernandezrivas@uspto.gov.

If you need to send an Official facsimile transmission, please send it to (571) 273-2589.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, David Vincent, may be reached at (571) 272-3080.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Omar F. Fernández Rivas
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Examiner, Art Unit 2129
Thursday, April 23, 2009.

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129